

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2005/000879

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H01Q21/30 H01Q1/38 H01Q9/40 H01Q1/22 G06F1/16

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H01Q G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/210187 A1 (WONG KIN LU ET AL) 13 November 2003 (2003-11-13)  pages 2-3; figures 1,7a,7b	1,6,7,9, 11,16, 17,19
X		8,18
Y		2-5, 12-15
Y		10,20
X	PATENT ABSTRACTS OF JAPAN vol. 2003, no. 12, 5 December 2003 (2003-12-05) -& JP 2003 347828 A (SONY CORP), 5 December 2003 (2003-12-05) abstract	1
Y	----- -----	10,20
	-/-	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&\* document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

29 April 2005

10/05/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.  
Fax: (+31-70) 340-3016

Authorized officer

Ribbe, J

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2005/000879

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 356 492 A (KALOI ET AL) 26 October 1982 (1982-10-26) pages 1A,2A, column 2, lines 39-66 -----	2-5, 12-15
X	WO 02/078123 A (TELEFONAKTIEBOLAGET L M ERICSSON ; BOLIN, THOMAS; YING, ZHINONG; ANDER) 3 October 2002 (2002-10-03) the whole document -----	1
X	EP 1 367 671 A (NGK SPARK PLUG CO., LTD) 3 December 2003 (2003-12-03) the whole document -----	1
P,A	US 2004/217916 A1 (QUINTERO ILLERA RAMIRO 'ES! ET AL) 4 November 2004 (2004-11-04) cited in the application the whole document -----	1,11
A	& WO 03/023900 A (RACTUS, S.A; QUINTERO ILLERA, RAMIRO; PUENTE BALIARDA, CARLES) 20 March 2003 (2003-03-20) the whole document -----	1,11
A	US 2002/140615 A1 (CARLES PUENTE BALIARDA ET AL) 3 October 2002 (2002-10-03) cited in the application the whole document -----	1,3-5, 11,13-15

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2005/000879

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 2003210187	A1	13-11-2003	NONE		
JP 2003347828	A	05-12-2003	NONE		
US 4356492	A	26-10-1982	NONE		
WO 02078123	A	03-10-2002	SE EP SE WO US	518988 C2 1378021 A1 0102183 A 02078123 A1 2004137950 A1	17-12-2002 07-01-2004 24-09-2002 03-10-2002 15-07-2004
EP 1367671	A	03-12-2003	JP EP US	2003347827 A 1367671 A2 2004001031 A1	05-12-2003 03-12-2003 01-01-2004
US 2004217916	A1	04-11-2004	WO BR CN EP JP MX	03023900 A1 0117125 A 1545749 A 1425820 A1 2005503062 T PA04002384 A	20-03-2003 28-09-2004 10-11-2004 09-06-2004 27-01-2005 31-05-2004
WO 03023900	A	20-03-2003	WO BR CN EP JP MX US	03023900 A1 0117125 A 1545749 A 1425820 A1 2005503062 T PA04002384 A 2004217916 A1	20-03-2003 28-09-2004 10-11-2004 09-06-2004 27-01-2005 31-05-2004 04-11-2004
US 2002140615	A1	03-10-2002	WO AT AU BR CN EP JP MX	0122528 A1 292329 T 5984099 A 9917493 A 1379921 A 1223637 A1 2003510871 T PA02003084 A	29-03-2001 15-04-2005 24-04-2001 16-07-2002 13-11-2002 17-07-2002 18-03-2003 20-08-2003